

WHAT IS CLAIMED

1 1. A method for writing data in a tape medium having wraps, comprising:
2 providing a layout of the tape including at least one segment within a full
3 available length of a first set of wraps for writing user data and at least one segment
4 within a full length of a second set of wraps for writing a work copy of the user data;
5 receiving user data to write to the tape medium;
6 detecting whether data writing is occurring in a specified write mode;
7 if the data writing is not occurring in the specified write mode, then writing
8 the received user data to one segment in the first set of wraps;
9 if the data writing is occurring in the specified write mode, then writing a
10 work copy to available full length wraps not having user data.

1 2. The method of claim 1, wherein the specified write mode comprises a
2 synchronous write mode.

1 3. The method of claim 2, wherein the received user data comprises a
2 synchronous write, wherein the work copy includes a copy of the received user data,
3 and further comprising:
4 returning complete to the received synchronous write after writing the work
5 copy in the second set of wraps.

1 4. The method of claim 1, wherein the first set of wraps comprises a
2 series of adjacent wraps and the second set of wraps comprises a series of adjacent
3 wraps with respect to the wraps in the first set.

1 5. The method of claim 1, further comprising:
2 accumulating the received user data in a buffer when writing work copies; and

3 writing all the accumulated user data in the buffer to at least one segment in
4 the first set of wraps if the buffer reaches a threshold amount of data or if data is no
5 longer being written in the specified write mode.

1 6. The method of claim 5, further comprising:
2 if there is no space for further work copies on the wraps to which the work
3 copies are being written, then writing the accumulated data in the buffer and the
4 received data to one segment; and
5 performing a backhitch to wait for the next received user data to write.

1 7. The method of claim 1, wherein the first set of wraps includes at least
2 two segments, further comprising:
3 if one segment in the first set of wraps becomes full of user data, then writing
4 received user data to another available segment in the first set of wraps.

1 8. The method of claim 1, further comprising:
2 if there are no available segments in the first set of wraps for user data, then
3 writing user data to one segment in the second sets of wraps.

1 9. The method of claim 8, wherein the work copy wraps are written to an
2 available full length wraps in the second sets of wraps not having user data.

1 10. The method of claim 8, further comprising:
2 if there are no available full length wraps, then writing work copies to wraps
3 within one segment in the second sets of wraps that does not include user data.

1 11. The method of claim 8, wherein the second set of wraps includes at
2 least two segments, wherein the work copies are written to at least two of a lower
3 wraps in the second set of wraps, and further comprising:

4 if user data is written to the at least two lower wraps in one segment in the
5 second set of wraps, then writing the work copies to the at least two lower wraps in
6 an additional segment in the second set of wraps that does not overlap with any
7 portion of a wrap that includes user data written when writing is not occurring in the
8 specified write mode.

1 12. The method of claim 1, wherein data is written in a serpentine manner
2 through wraps in the segments within longitudinal boundaries in the wrap defined by
3 the segment, and wherein after writing user data to all wraps in a segment, writing
4 user data to the wraps in an additional available segment.

1 13. A system for writing data in a tape medium having wraps, comprising:
2 means for providing a layout of the tape including at least one segment within
3 a full available length of a first set of wraps for writing user data and at least one
4 segment within a full length of a second set of wraps for writing a work copy of the
5 user data;
6 means for receiving user data to write to the tape medium;
7 means for detecting whether data writing is occurring in a specified write
8 mode;
9 means for writing the received user data to one segment in the first set of
10 wraps if the data writing is not occurring in the specified write mode; and
11 means for writing a work copy to available full length wraps not having user
12 data if the data writing is occurring in the specified write mode.

1 14. The system of claim 13, wherein the specified write mode comprises a
2 synchronous write mode.

1 15. The system of claim 14, wherein the received user data comprises a
2 synchronous write, wherein the work copy includes a copy of the received user data,
3 and further comprising:
4 means for returning complete to the received synchronous write after writing
5 the work copy in the second set of wraps.

1 16. The system of claim 13, wherein the first set of wraps comprises a
2 series of adjacent wraps and the second set of wraps comprises a series of adjacent
3 wraps with respect to the wraps in the first set.

1 17. The system of claim 13, further comprising:
2 means for accumulating the received user data in a buffer when writing work
3 copies; and
4 means for writing all the accumulated user data in the buffer to at least one
5 segment in the first set of wraps if the buffer reaches a threshold amount of data or if
6 data is no longer being written in the specified write mode.

1 18. The system of claim 17, further comprising:
2 means for writing the accumulated data in the buffer and the received data to
3 one segment if there is no space for further work copies on the wraps to which the
4 work copies are being written; and
5 means for performing a backhitch to wait for the next received user data to
6 write.

1 19. The system of claim 13 wherein the first set of wraps includes at least
2 two segments, further comprising:
3 means for writing received user data to another available segment in the first
4 set of wraps if one segment in the first set of wraps becomes full of user data.

1 20. The system of claim 13, further comprising:
2 means for writing user data to one segment in the second sets of wraps if there
3 are no available segments in the first set of wraps for user data.

1 21. The system of claim 20, wherein the work copy wraps are written to
2 an available full length wraps in the second sets of wraps not having user data.

1 22. The system of claim 20, further comprising:
2 means for writing work copies to wraps within one segment in the second sets
3 of wraps that does not include user data if there are no available full length wraps.

1 23. The system of claim 20, wherein the second set of wraps includes at
2 least two segments, wherein the work copies are written to at least two of a lower
3 wraps in the second set of wraps, and further comprising:
4 means for writing the work copies to the at least two lower wraps in an
5 additional segment in the second set of wraps that does not overlap with any portion
6 of a wrap that includes user data written when writing is not occurring in the
7 specified write mode if user data is written to the at least two lower wraps in one
8 segment in the second set of wraps.

1 24. The system of claim 13, wherein data is written in a serpentine manner
2 through wraps in the segments within longitudinal boundaries in the wrap defined by
3 the segment, and wherein after writing user data to all wraps in a segment, writing
4 user data to the wraps in an additional available segment.

1 25. An article of manufacture for writing data in a tape medium having
2 wraps, wherein the article of manufacture causes operations to be performed, the
3 operations comprising:

4 providing a layout of the tape including at least one segment within a full
5 available length of a first set of wraps for writing user data and at least one segment
6 within a full length of a second set of wraps for writing a work copy of the user data;
7 receiving user data to write to the tape medium;
8 detecting whether data writing is occurring in a specified write mode;
9 if the data writing is not occurring in the specified write mode, then writing
10 the received user data to one segment in the first set of wraps;
11 if the data writing is occurring in the specified write mode, then writing a
12 work copy to available full length wraps not having user data.

1 26. The article of manufacture of claim 25, wherein the specified write
2 mode comprises a synchronous write mode.

1 27. The article of manufacture of claim 26, wherein the received user data
2 comprises a synchronous write, wherein the work copy includes a copy of the
3 received user data, wherein the operations further comprise:
4 returning complete to the received synchronous write after writing the work
5 copy in the second set of wraps.

1 28. The article of manufacture of claim 25, wherein the first set of wraps
2 comprises a series of adjacent wraps and the second set of wraps comprises a series of
3 adjacent wraps with respect to the wraps in the first set.

1 29. The article of manufacture of claim 25, wherein the operations further
2 comprise:
3 accumulating the received user data in a buffer when writing work copies; and
4 writing all the accumulated user data in the buffer to at least one segment in
5 the first set of wraps if the buffer reaches a threshold amount of data or if data is no
6 longer being written in the specified write mode.

1 30. The article of manufacture of claim 29, wherein the operations further
2 comprise:

3 if there is no space for further work copies on the wraps to which the work
4 copies are being written, then writing the accumulated data in the buffer and the
5 received data to one segment; and

6 performing a backhitch to wait for the next received user data to write.

1 31 The article of manufacture of claim 25, wherein the first set of wraps
2 includes at least two segments, and wherein the operations further comprise:

3 if one segment in the first set of wraps becomes full of user data, then writing
4 received user data to another available segment in the first set of wraps.

1 32. The article of manufacture of claim 25, wherein the operations further
2 comprise:

3 if there are no available segments in the first set of wraps for user data, then
4 writing user data to one segment in the second sets of wraps.

1 33. The article of manufacture of claim 32, wherein the work copy wraps
2 are written to an available full length wraps in the second sets of wraps not having
3 user data.

1 34. The article of manufacture of claim 32, wherein the operations further
2 comprise:

3 if there are no available full length wraps, then writing work copies to wraps
4 within one segment in the second sets of wraps that does not include user data.

1 35. The article of manufacture of claim 32, wherein the second set of
2 wraps includes at least two segments, wherein the work copies are written to at least

3 two of a lower wraps in the second set of wraps, and wherein the operations further
4 comprise:

5 if user data is written to the at least two lower wraps in one segment in the
6 second set of wraps, then writing the work copies to the at least two lower wraps in
7 an additional segment in the second set of wraps that does not overlap with any
8 portion of a wrap that includes user data written when writing is not occurring in the
9 specified write mode.

1 36. The article of manufacture of claim 25, wherein data is written in a
2 serpentine manner through wraps in the segments within longitudinal boundaries in
3 the wrap defined by the segment, and wherein after writing user data to all wraps in a
4 segment, writing user data to the wraps in an additional available segment.